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Hampshire Industrial Archaeology Society

Journal No. 26

(2018)



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Front cover picture:

The 4-lift gasholder house dating from 1892 at Wola gasworks, Warsaw. Photo 1994. (Ray Riley)
[see page 31]

Back cover pictures:

Top: The Edwin Jones store in Southampton, completed in 1959 and re-branded as Debenhams in 1973. Photograph taken in 1980. (Bill White)
[see page 11]

Middle: The entrance to the Rollesbrook Valley Greenway on Wilton Avenue, Southampton in March 2018, showing the DN&SR railway embankment on the right. (Howard Sprenger)
[see page 22]

Bottom: The two 3.6 metre gauge tracks and cradles on the Elbląg inclined plane. The cables rest on deeply grooved wheels. Photo 1994. (Ray Riley)
[see page 32]

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Hampshire Industrial Archaeology Society

(formerly Southampton University Industrial Archaeology Group)

Journal No. 26, 2018

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Editorial

Issue **26** of our *Journal* starts our second quarter-century.

Our first article deals with the history of a well-known Southampton department store, Edwin Jones, where the late Tom Witt worked for over thirty years. With the kind permission of his widow, your Editor has made use of material written by Tom on the history of the company. The Edwin Jones name, as part of the Debenhams group disappeared in 1973 when the store was re-branded as Debenhams. Howard Sprenger takes us on a journey along the long abandoned and incomplete Southampton section of the Didcot, Newbury & Southampton Railway as it sought to extend its line south of Winchester. It never raised the money to build the line which was later completed by the L&SWR, crossing the River Itchen on Hockley viaduct and joining the London & South Western Railway line at Shawford junction. Hockley viaduct lives on as 'Viaduct Way', a cycle and pedestrian route into Winchester. Ray Riley rounds off this issue with a miscellany of Industrial Archaeology sites in Poland.

Martin Gregory
June 2018

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Edited and produced by Martin Gregory

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The Contributors

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Professor Ray Riley taught human geography at the University of Portsmouth, specialising in the regional development of Belgium and Poland (where he worked for five years after retiring) urban history and industrial archaeology. He served on the Council of the Association for Industrial Archaeology for eight years and has been a member of Southampton University Industrial Archaeology Group, later Hampshire Industrial Archaeology Society, since 1968. He edited the first eight volumes of the *Transactions, Naval Dockyards Society.*

Howard Sprenger
After training as a teacher at St. Luke's College, Exeter, Howard spent ten years teaching in Staffordshire and Hampshire before joining IBM as a technical author. He retired twenty six years later as a software development manager, and now teaches mathematics to adult students in Portsmouth. With his wife, he runs Kestrel Railway Books, and is the author of four railway books. He is a member of several industrial and railway societies and is the present Vice-Chairman of HIAS.

Tom Witt
Tom was born in Bitterne, Southampton, in 1935 and was educated at the Itchen Grammar School. After Art College he served in the Army. H worked for Edwin Jones & Co. Ltd. for 34 years. His essay *"Edwin Jones, the man and the business"* formed part of his submission for a Diploma in Local History at Southampton Technical College in 1989-90. He died in 2000.

Acknowledgements

My thanks are due to all who have contributed to this edition of the *HIAS Journal*. Acknowledgements and thanks for the provision of illustrations are made as follows:

Hampshire Archives, (Figures 21 & 22); Ray Riley, (Figures 36 to 64, front & back covers); National Library of Scotland, (Figures 31 & 32); Southampton Archives, (Figures 23 & 26); Southampton Local Studies Library, (Figures 24, 27-29); Howard Sprenger, (Figures 25, 30, 33-35 & back cover); Tom Witt and Bill White, (Figures 1 to 20 & back cover).

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Edwin Jones
The Man and the Business

Tom Witt

Edwin Jones' father moved to Romsey from Wrexham in North Wales to set up in business as a coal merchant and railway carrier with premises in Latimer Street, Romsey. He married the youngest daughter of Mr Jewell and integrated himself into the community, becoming choirmaster and organist at the Abbey Congregational Church. He passed his love of music and his religious convictions on to his son Edwin who was born on February 15th 1832.

Edwin was educated in Romsey at a private school run by the Reverend John Yarnold. On leaving school, he was apprenticed by his father to Walter Godfrey, Draper and Outfitter of The Hundred, Romsey. He gained experience of the retail trade by working in Winchester and then in Southampton for a Mr Fowler who was in business at 16 High Street, Southampton, a property which Edwin was to purchase later in his career.



Figure 1. Edwin's birthplace in Romsey

An ambitious young man, he moved to London where he was employed by Messrs James Shoolbred in Tottenham Court Road. While in London, his interest in music and love of study resulted in him helping to found one of the earliest musical societies connected with the Metropolitan Business Houses. He retained these interests when he returned to Southampton, later becoming President of the Young Men's Mutual Improvement Society which later merged with the Southampton Athenaeum.

Edwin was 28 when he returned to Southampton to open his first shop on September 1st 1860. It was a single-fronted premises in East Street and sold haberdashery and ribbons. He ran the shop with the help of his two sisters and a single apprentice, John Ashford. There was only one bedroom in the living accommodation over the shop and this was occupied by his sisters. Edwin slept in the shop on a portable bed erected each night after closing time.

He soon showed a keen business sense and, with diligence and hard work was able to move to larger premises at 31-32 East Street, a shop that had been previously occupied by Walton & Major, Grocers. These properties became the foundation of his first store, known as Manchester House, shown in an engraving in *Southampton Illustrated* published in 1891.

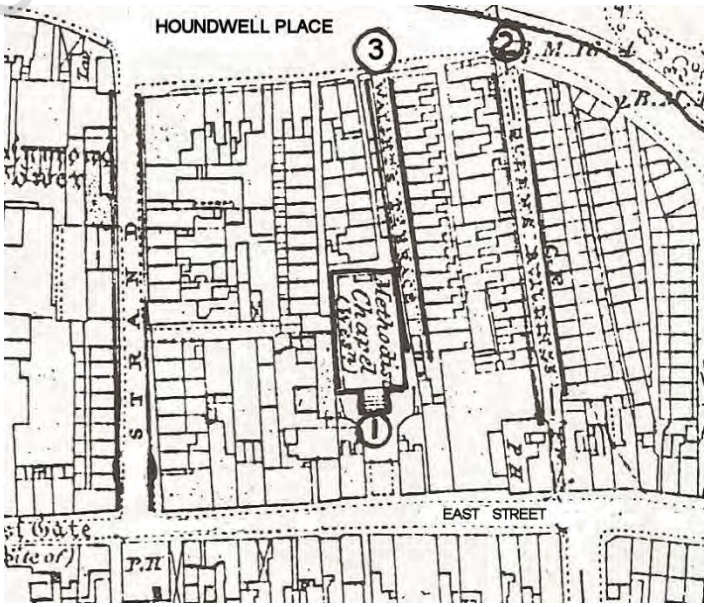


Figure 2. A map of Southampton in the late 1860s. Edwin Jones' first shop was on East Street. Shown on this map are the old Wesleyan Chapel (1) and the Blue Boar Public House (marked P.H. on right hand side). Edwin eventually acquired all the property between Queen's Buildings and Weights Passage (3).

By buying up adjacent properties, expansion continued along East Street. One such property was a well-known Public House, *The Blue Boar*. This hostelry was a meeting house and club used by many of the tradesmen of the area and included a music

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Figure 3. The shop frontage on East St. c1900.
Queen's Buildings passage is at the right hand side.



Figure 4. The Queen's Building frontage facing Hoglands Park in the 1920s.

hall at the rear. Many Public Houses of the time had such a feature which contributed to the establishment of the music hall tradition.

Another property he tried to acquire was the Wesleyan Chapel adjoining his properties. However, his offer for the property, which included a condition that he would build a replacement chapel on a site chosen by the trustees, was turned down. The Chapel ultimately came up for auction and Edwin bought it for a sum well below his original offer.

Edwin now turned his attention to the area which faced Hoglands Park and backed onto the East Street store. He purchased the cottages on the site and, having demolished them, work was started on an additional section of the store, known as Queen's Buildings. The increased floor area of the new buildings was approximately 35 000 ft^2 (3200 m^2). From East Street to the new entrance facing Hoglands Park was around 350 ft (100 m) and the whole site ran to nearly an acre (0.4 ha). The Hoglands Park frontage had a tower reaching to nearly 70 ft (21 m) and was an imposing sight from the park. New departments included a large food hall and a much wider range of clothing. Edwin Jones' Store was now one of the finest stores in the south of England and catered for the whole of Southampton.

Edwin had hoped to build an arcade along the south-east side of the store between East Street and the Park. This would have incorporated an alleyway called 'The Cut'. However, he was not able to buy all the property bordering on it so the extension proved impossible.

However, he did purchase properties on the south side of East Street where he opened a furniture section and a foot-wear shop on the corner of Orchard Lane. All this had taken him about 20 years to build. As he said to a colleague, "a store should be like a mousetrap; easy to get into but difficult to get out of".

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What of Edwin's life outside the business? In the late 1860s he married Miss Annette Sharp from Christchurch, Hampshire. She gave birth to his only child, Annette, but sadly died soon afterwards.

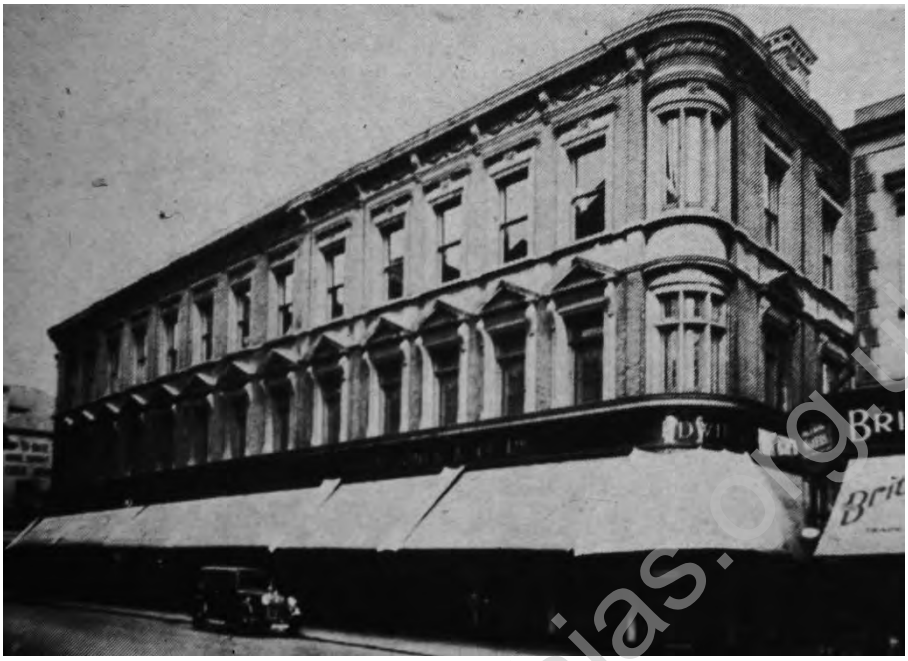


Figure 5. A view of the main frontage on the north side of East St. in the 1920s.

Edwin became very involved in the political life of the town, standing as the Liberal candidate for election to St. Mary's Ward on the Town Council. He was unsuccessful but, in 1870, he was returned to represent All Saints Ward, previously a Conservative stronghold. He was elected to the offices of Senior Bailiff in 1871, Sherriff and Magistrate in 1872 and Mayor of Southampton in 1873 and 1875.



Figure 6. A postcard of East St. looking east, with Edwin Jones' main building on the left and the furniture department on the right.

On April 15th 1874, he and other members of the Council, held a reception at the Port for members of the Royal Geographical Society. It was to celebrate the arrival of the ship *Malwa* bringing the body of Dr Livingstone back to this country for interment in Westminster Abbey. Many distinguished men were in attendance, including Mr H. M. Stanley. Edwin's hospitality was much appreciated and he was elected to a Fellowship at the Society's next meeting.

Probably the greatest event undertaken during these years was a Grand Fete held on July 28th 1874 in Bannister's Park. On this occasion he entertained 12 000 local children. In total, 40 000 people attended with Edwin bearing the total expense of the event.

In 1875 he was living at 'Fairlea' in Bassett, Southampton when he married his second wife, Fanny Louisa, the second daughter of Robert White of Egypt House, Cowes, IOW. Their wedding was a grand affair. The couple were presented with a French Epergne table centrepiece by fellow townsmen. This is now kept in the Civic Centre, Southampton for use at City functions.

Known as a man of strong Liberal and religious principles, he maintained many other interests, becoming President of the Young Men's Mutual Improvement Society, President of the Polytechnic Institution and was a keen supporter of various Charities. In 1874, he became President of the Central Liberal Association,

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with headquarters in the Philharmonic Rooms in Above Bar, Southampton. In the same year, he contested, standing as the Liberal candidate, the Parliamentary seat of Wallingford, Berkshire, but was unsuccessful.

It was not until 1885 that Edwin had a second chance to enter Parliament. In 1883, he and Henry Lee from Manchester, were adopted as Liberal candidates for the two seats in Southampton. Both were well beaten by the Conservative candidates. He campaigned on local issues such as free elementary education and the necessity of promoting the development of the Port facilities. He supported the Didcot, Newbury and Southampton Railway Bill in Parliament, to build a second rail line into the docks. He had an influence on the adoption of the Docks Extension Scheme undertaken in 1887.

In 1890, as he approached 60 years of age he retired from Southampton Council and was appointed Deputy Lieutenant of Hampshire. He turned down an invitation to stand again as the Liberal Candidate in the 1892 Parliamentary election.

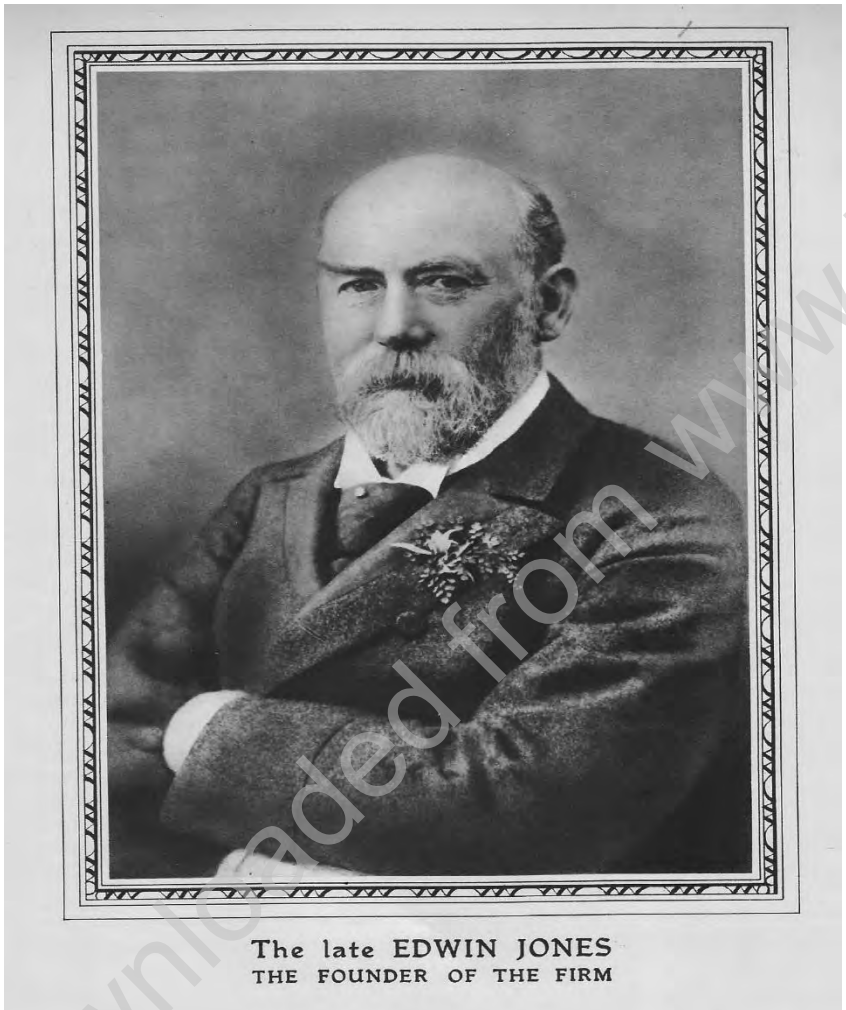


Figure 7. The Founder's portrait as depicted in the 'Edwin Jones Blotter' of 1933.
The 'Blotter' was a lavishly illustrated advertising blotter given to valued suppliers and customers at the completion of the modernisation programme.

Through all his civic duties, the business continued to prosper. In 1880, he added a wholesale business which was housed in the back of the extended store. The wholesale side catered for the needs of local traders as well as providing stability to the merchandise line for his own retail business. It had its own managers and staff and ultimately had accounts across the south of England, South Wales, the Midlands and East Anglia.

As local communications improved, the catchment area for Edwin's store and other retail establishments in Southampton grew considerably. In 1888, Edwin Jones' business was formed into a Limited Liability Company with a capital of £120 000 (later raised to £200 000). The first Board consisted of Edwin Jones as Chairman, E. T. Sims as Secretary, H. Milner White (Edwin's brother in law) and two others as Directors.

In 1889, Edwin moved from Bassett to Harefield House, West End, Southampton. The house came with a 200 acre (80 Ha) estate and had been built in the 1840s for Sir Edward Butler, Chairman of the Southampton & Salisbury Railway Company. Edwin grew to love the area and, after 1890, spent an increasing amount of his time on the estate. He was taken ill at the end of June 1896 and, within a few days, was confined to bed with pleurisy. He died on Wednesday July 29th 1896. His funeral was a grand affair with a full choral service at West End church. He was buried in Union Hill cemetery, West End.

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After his death, the Harefield estate was purchased from his widow by the Directors of Edwin Jones & Co Ltd for staff recreational purposes. The old riding school and outbuildings were converted into a sports pavilion and canteen, and an area was laid out with tennis courts, cricket pitches, hockey and football fields.

In the Company, Henry Milner White succeeded Edwin as Chairman and Managing Director. Dr Russell Bencraft (Edwin's doctor and the Company's Medical Officer) and Mr E. T. Sims (The Company Secretary) were appointed to the Board. These Directors served the Company throughout the Edwardian era and the First World War up to (by then Sir) Henry Milner White's death in 1922. He had been connected with the business and the Limited Company for 34 years. Mr Sims replaced him as Chairman and Managing Director and (by then Sir) Russell Bencraft became Deputy Chairman.

When the mini-boom after the First World War faded in the mid-1920s the Company, which had remained prosperous up to that point, was feeling the pinch. In 1925, a prospectus was presented to investors for the creation of the Drapery and General Trust. The man who found Department Stores a happy hunting ground was Clarence Hatry. To family owned businesses whose investments were at risk he promised that their investments would be protected and the modern management skills of his organisation would revive their ailing stores. By 1927, the Drapery Trust, headed by Hatry, had become a massive national group. Edwin Jones & Co Ltd, as well as many other well-known stores in the South of England became part of the group. Notable members were Bon Marche of Gloucester, Footman Pretty & Co of Ipswich, Handleys of Southsea, Jones & Co of Bristol and Spooners of Plymouth.



Figure 5. The Houndwell Place frontage after completion of the modernisation works of 1933.



Figure 9. A motor delivery van in the 1930s.

Within a year, Hatry and the Drapery Trust, after much dealing and manipulation of shares, handed over control of the group to Debenhams. There was considerable

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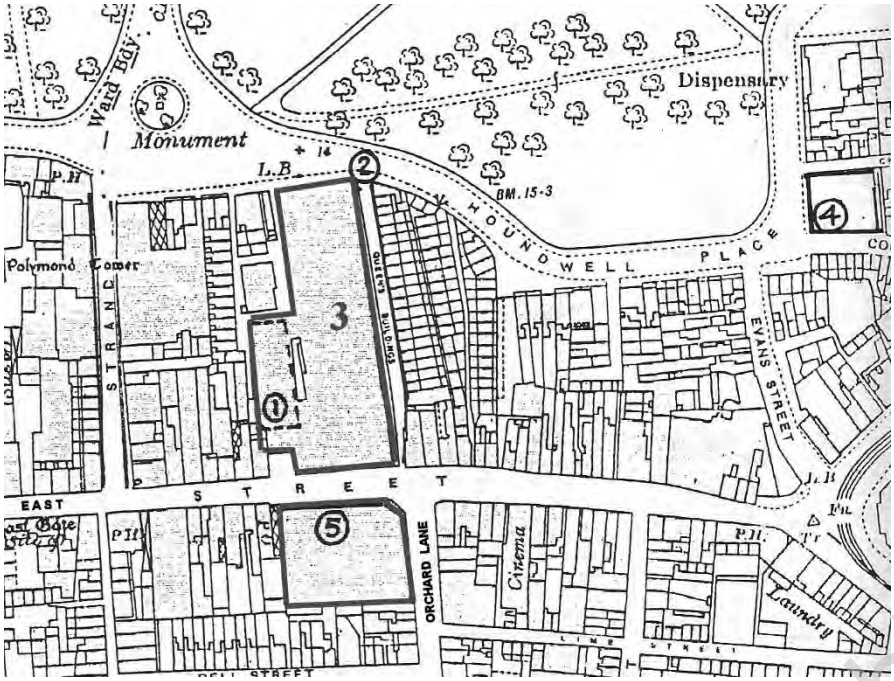


Figure 10. A map of Southampton in 1933, showing (1) the site of the Wesleyan Chapel (converted to a staff facility), (2) Queen's Buildings passage, (3) the modernised main building, (4) the men's hostel, (5) the Furniture Department across East St.

debate at the time regarding who controlled whom. Many of the negotiations for Debenhams had been undertaken by G. M. Wright who became Managing Director, and later Chairman, of Debenhams. Wright was also appointed to the Board of Edwin Jones & Co Ltd after the takeover. In September 1929, Hatry and some of his associates were interviewed by the Director of Public Prosecutions for alleged fraud. Subsequently, Hatry received a twelve year prison sentence for fraud.

Debenhams was cleared of involvement in the dirty dealings mainly due to the brilliance of Wright throughout the merger dealings with Hatry. However, public confidence in the Company was dented by the episode. Edwin Jones & Co Ltd, as part of the Debenhams Group, experienced the slump of the late 1920s and early 1930s.



Figure 11. The first escalator in a Southampton store, installed in the modernised Edwin Jones store. (EJ Blotter)

In 1933, the store started on a large modernisation programme. The requirements of the 1930s were different from those of previous years. The merchandise had to be seen in an attractive setting, not hidden behind partitions or discreetly kept in drawers behind the counters. The floors were opened up in the conversion; steel pillars replaced internal walls, allowing departments to be seen throughout the entire length of the store. One of the first escalators in the South was installed along with the latest designs of lifts. A sprinkler system was installed along with emergency escape staircases. There was even an auxiliary electric lighting system to guard against breakdowns in the public supply. A new floor was added to the existing building and additional basement space was made available.

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Figure 12. A poor photograph of one of the Foden steam lorries used by Edwin Jones & Co. for delivering coal from their private wharf.

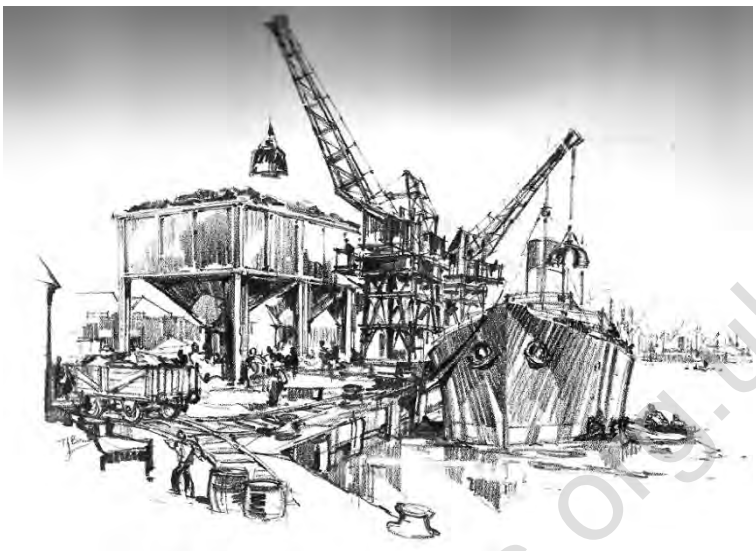


Figure 13. The private coal wharf where Edwin Jones & Co. could store 2000 tons of coal for delivery to customers in the Southampton area. (EJ Blotter)

The opportunity was taken to open new departments: the fashion departments acquired a hairdressing salon and a special children's section. An extended Food Hall sold fresh bread and cakes baked on the premises. This feature ensured that customers visited the store almost every day. There was also a greengrocery with fresh fruit and vegetables delivered daily from the Company's farms at Swanwick Lane and the Harefield estate. Other new services included a shoe repair service, a travel bureau and coal deliveries.

There was a new restaurant seating 600 which was available for private parties. It had its own dance floor, cloakrooms and a private entrance. Edwin's comparison with a mousetrap was indeed being fulfilled!



Figure 14. The men's hostel in Houndwell Place, shown after the war when re-named Capella House and used by the wholesale division.

Edwin had always prioritised the welfare of his staff. It was recognised in 1930 that the quality of those staff facing the customer was key to the recovery. In the 1933 rebuilding, the Wesleyan Chapel purchased many years earlier was converted into a staff facility catering for 1000 staff and live-in hostels were provided for male and female staff. The men's hostel at 4 Houndwell Place accommodated 35, each with his own room. The communal spirit there resulted in lifelong friendships being formed. After the war, renamed Capella House, it became the head office of the Wholesale division.

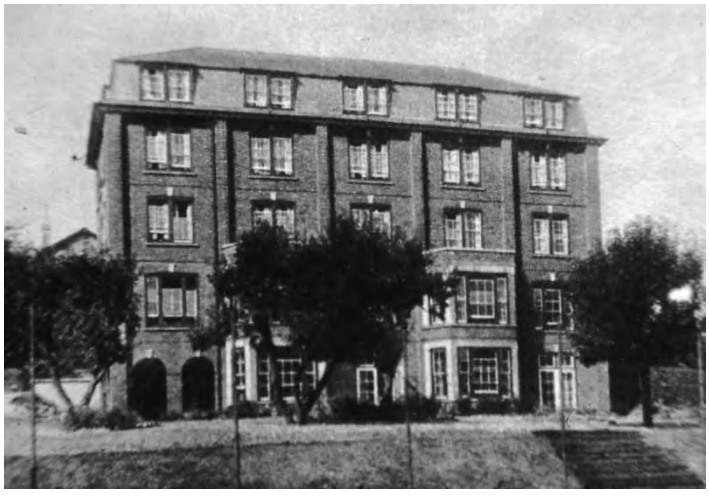


Figure 15. The ladies' hostel in Hill Lane. (EJ Blotter)

The ladies' hostel was called Queen's Court and was in Hill Lane, Southampton. It was a purpose-built building standing in its own grounds, with two tennis courts and 'plots for those who enjoy cultivating their own tiny gardens.' It had a communal lounge, a dining room with seating for up to 100 ladies,

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writing room, library and games room. The hostel was destroyed during the war and was later rebuilt as a block of self-contained flats, many of which were occupied by Edwin Jones staff after the war.

Yet another staff facility was a Sports and Social Club in East Park Terrace in a building called Garibaldi House. Garibaldi had stayed there in 1864 on a visit to Southampton when it was home to the then mayor, George Brinton. Edwin Jones & Co bought it in 1911 for use as a Social Club with hostel facilities on the upper floor. It also was bombed during the war.



Figure 16. The remains of the Edwin Jones store in November 1940

Under Debenhams management, F. J. Pope, the Chairman of Edwin Jones, was given control of what was to be known as the "C"-group stores comprising Edwin Jones, Bon Marche of Gloucester, Jones of Bristol, Spooners of Plymouth and many other Debenhams establishments. He was to set up internal organisations to introduce a basic form of Central Buying of merchandise which would sell throughout the group. "Debenhams Limited Manufacturing & Supply" was one such organisation. Edwin Jones was to supply several of the Central Buying team in the pre-War years.



Figure 17. The Edwin Jones warehouse on Town Quay in 1944.

In November 1940, in what was described as the worst weekend in Southampton's history, the Edwin Jones store was totally destroyed by enemy bombing. Charles Stacey joined the staff of Edwin Jones five days before the bombing. His first job was ticket writing. He remembered arriving for work and finding the store was no longer in existence. As he was about to return home, the General Manager spotted him. "Quick, Stacey, get some paper, ink and brushes and write a poster saying that we will sell rations from our delivery lorries." Slowly, the business revived: offices were set up in the men's hostel, a drapery store in Shirley High Street, a Fashion shop in Brookvale Road, a Menswear outlet in Portswood.

Other buildings used included the old Town Quay Carpet warehouse and the old cinema in East Street. Charles Stacey stayed with Edwin Jones and later spent many years as Advertising Manager.

A major effort was soon made on clearing up the site. The basement of the bombed store was patched up and a temporary single storey added. Trading was, of course restricted throughout the war years and the immediate post-war period. Plans were started for building a new store on the site and, in September 1954,

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Figure 18. East St. after clearing up the debris.
(The Edwin Jones temporary store is arrowed.)

Southampton Council Planning Committee approved plans for a new steel framed building of five floors. The new store was opened in March 1959 as the building we see today. Initially branded as Edwin Jones its name was changed to Debenhams in 1973.

HIAS is very grateful to Tom's widow for permission to use material for this article from Tom's research project of the same name. The original typescript contains a full set of references for the history and copies were lodged with Southampton libraries and record office.



Figure 19. The temporary store in East St. just after the war.

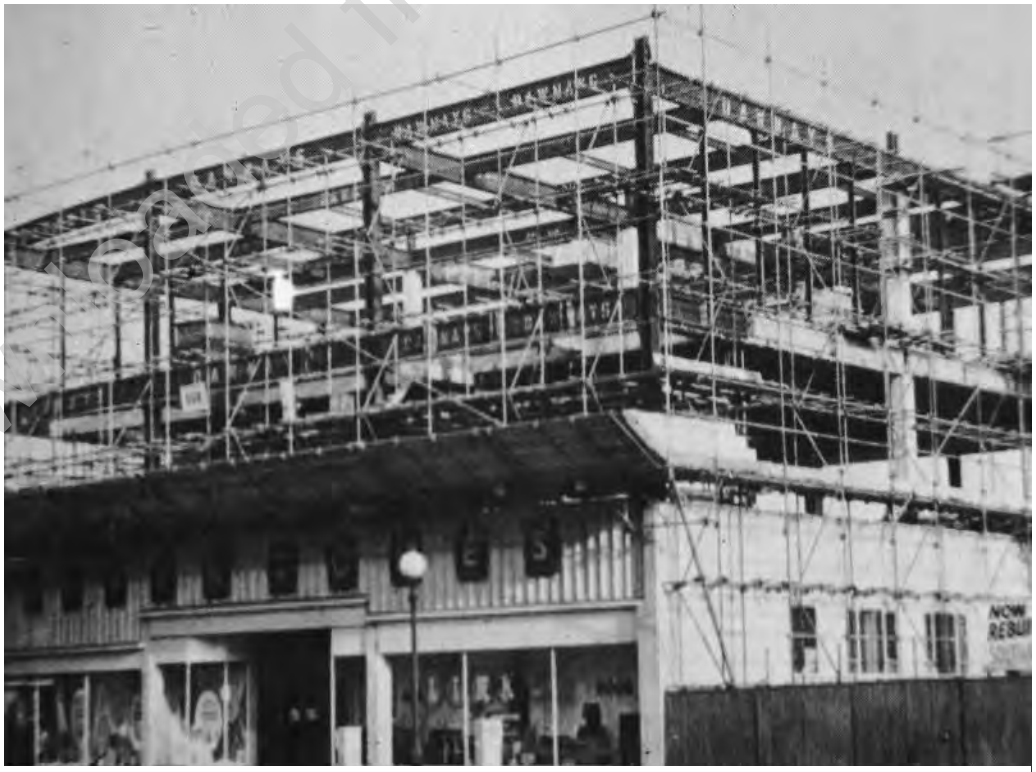


Figure 20. The new Edwin Jones store rises on the old site. It was completed in 1959.

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The Didcot, Newbury & Southampton Railway in Southampton

Howard Sprenger

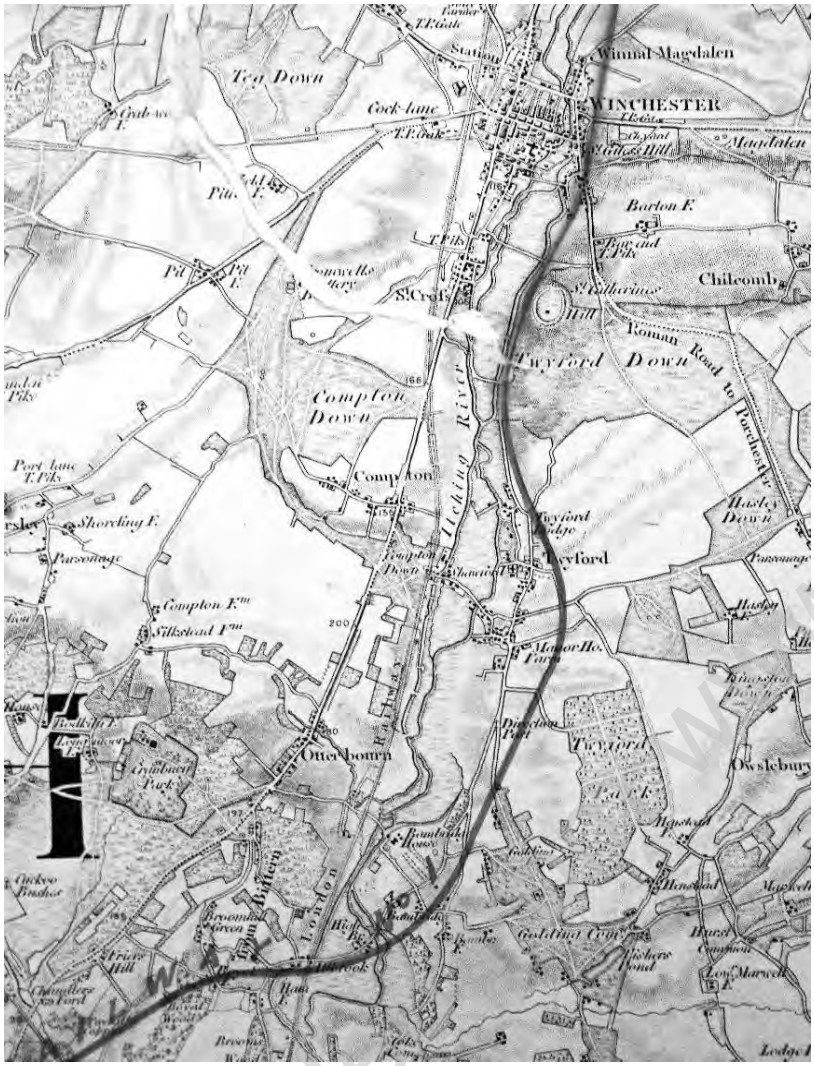


Figure 21. DN&SR Winchester to Southampton Plans of Nov 1881 (north)
The proposed route of the line published in November 1881, showing the section between Winchester and Chandler's Ford.

When the Didcot, Newbury & Southampton Railway (DN&SR) reached Winchester, it was intended to continue to Southampton via its own rails (the clue is in the title of the company!) However, shortage of money was a problem, and although the opening of the line to Winchester generated some sorely-needed income, it was below expectations, and the available sources of finance dried up.

This is the story of how the company planned to reach Southampton, how it began to construct its independent line, how the route was abandoned, and how it might have expanded further. It does not deal with how the line finally did reach Southampton over Hockley Viaduct to a junction with the London & South Western Railway (LSWR) at Shawford Junction.

It should be remembered that although the line had the support of the Great Western Railway (GWR) and was even worked by that company, it was an independent concern until the 1923 Grouping, whose relationship with the GWR sometimes worked in its favour, but often (especially with regard to its dealings with the LSWR) did not.

An Independent Route from Winchester to Southampton

From the mid-1840s, there was a belief in Southampton that the LSWR was making excessive charges because of its monopoly position, so at the height of the "railway mania" of 1845-6, the Corporation looked for an alternative railway behind which it could throw its support. Subsequent years yielded no viable alternative, but the Corporation earmarked Queen's Park as a possible site for a station, and its desire to see a second railway in the town was heightened by the withdrawal of the Peninsula and Oriental Steam Navigation Company (P&O) from Southampton in 1881. Additional support also came from elsewhere, for example, the citizens and council of Ventnor, Isle of Wight, were keen to see the completion of an independent route. There was, therefore, much sympathy for the DN&SR scheme, not least because the line promised better links to the Midlands and North of England.

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On 4th May 1881, at Southampton skating rink, a meeting of three to four thousand people voted overwhelmingly in favour of encouraging the DN&SR to extend its line to Southampton. Within a few days, £26,000 had been subscribed by citizens of the town towards the capital required, and at the Borough Council Meeting of 4th July, the Corporation considered a request to convey 20 (later 30) acres of mudland on Western Shore to the DN&SR for a nominal consideration, on condition that the railway made an embankment from Blechynden to Royal Pier with a causeway outside it, along which quays, jetties and landing places could be built.

A further public meeting was held at the skating rink on 18th October, where the Corporation was empowered to invest £50,000 in the undertaking. It was also reported that the Shirley Local Board would subscribe £5000, Winchester Corporation promised £15,000 and Newbury, £10,000. A subsequent House of Commons committee, however, ruled that Corporations would be exceeding their legal powers by subscribing to the scheme.

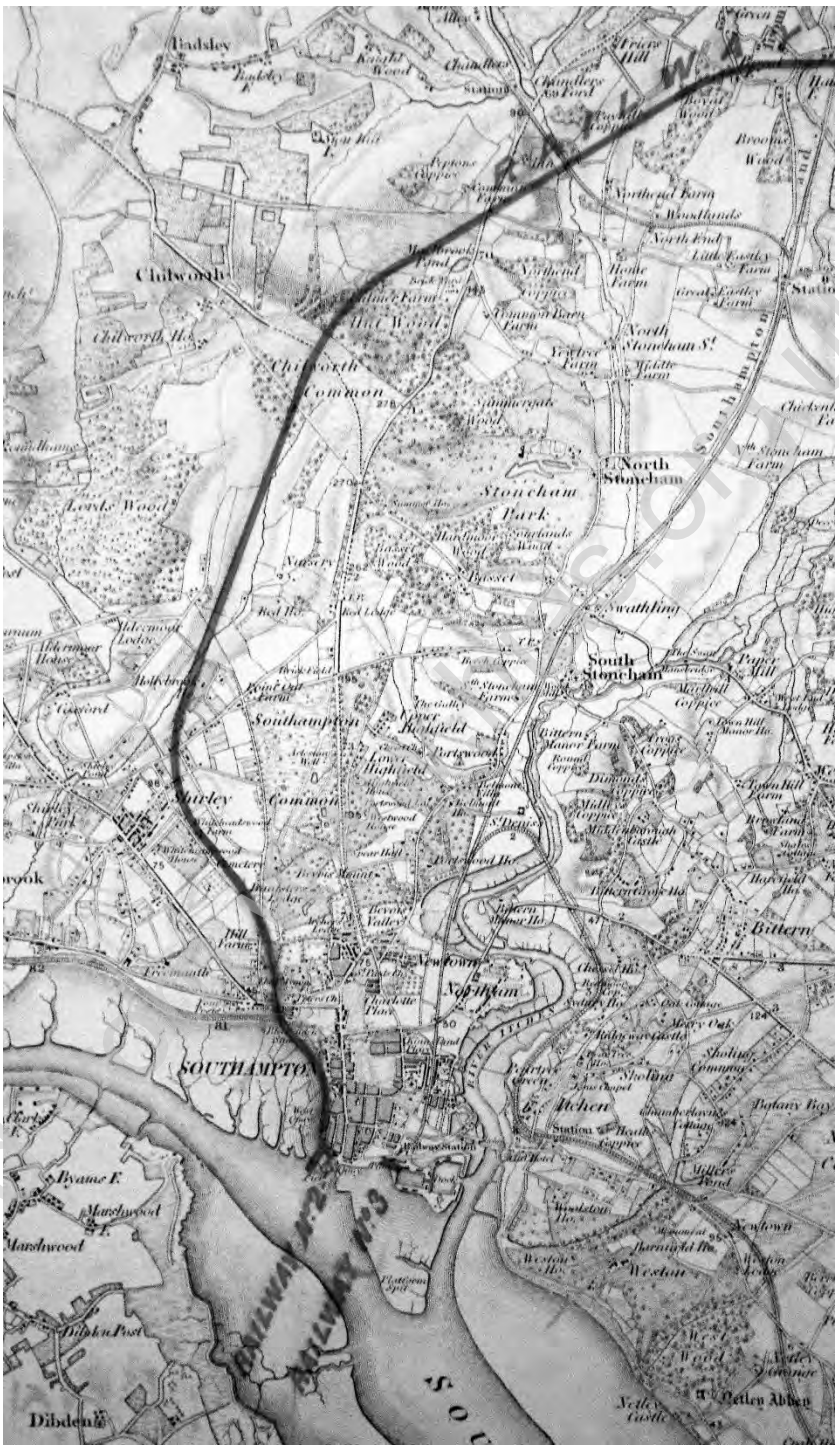


Figure 22. DN&SR Winchester to Southampton Plans of Nov 1881 (south) The Chandler's Ford to Southampton part of the proposed route. "Railway No. 2" refers to the connection with the Harbour Board's tramway at Royal Pier, and "Railway No. 3" is the branch from the tramway into the docks.

Predictably, support for the completion of the line was stronger at the southern end of the route than north of Newbury, where the view was that a junction with the LSWR should be made without delay. In the absence of an independent line, some supporters from Southampton variously suggested junctions at Allbrook, Eastleigh or Chandler's Ford (in other words, as close to Southampton as possible) but the LSWR was opposed to all these suggestions.

In November 1881, the DN&SR published plans for its line to Southampton, drawn up by its engineer, Sir John Fowler. The Didcot to Newbury section was opened in April 1882, and on the 25th of that month, a House of Commons committee looked into the question of the proposed extension to Southampton. The LSWR vigorously opposed the line arguing that it already met all the railway needs of the port, and that it was strongly supported by the shipping interests in the town. Its engineer, Mr Jacomb, showed plans for

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Figure 23. Buxey's map, c1883-4.
Buxey's map of circa 1883-4 clearly shows how the DN&SR would have used the reclaimed mudlands for its line and station, and how it would have extended down to the Royal Pier.

improvements at Southampton, which included the reclamation of 35 acres (14 ha) of mudland to construct a promenade. It also proposed to remove the level crossing at Blechynden, and build two new stations – one for passengers and goods nearer the town centre at Bargate Street and another at Royal Pier, which would be connected to Town Quay by a tramway.

These proposals were so similar to those of the DN&SR, that one suspects that the committee simply saw through them, as its conclusion was to find in favour of the DN&SR, but with the proviso that it should make a junction with the LSWR where it met the Alton branch north of Winchester. In Southampton, the news was greeted by the ringing of church bells, the firing of guns, the raising of flags and "general rejoicing". A House of Lords committee later endorsed the Commons' decision, triggering yet more local celebrations.

By February 1883, the DN&SR's contractors, Falkiner and Tancred, had commenced building at three points on the Newbury to Winchester section, and in March it was reported that preliminary works had also started at the Southampton end. (Falkiner and Tancred, together with Fowler, were later to be responsible for the Forth Bridge.) By May 1883, land had been bought, and the route was staked out between Shirley and Blechynden; nearly 100 men were said to be employed together with a "steam navvy". The prospect of a new line into Southampton created interest elsewhere in the country, and a public meeting was held at Southampton Guildhall on 11th April to support a proposed line from Pewsey via Salisbury to Southampton to develop the Welsh coal fields. This line would have joined the DN&SR at Shirley.

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The shareholders' meeting held on 23rd August 1883 recorded that work in Southampton was proceeding well, with some 12,000 cubic yards (9200 m^3) of excavation completed, together with a quarter of a mile of track formation east of Hill Lane and north of Four Posts Hill (the western end of Commercial Road). Much of the land was fenced off, and consisted of a strip of land that stretched from the present Southampton station northwards for about half a mile, then north-westerly for nearly a mile towards St James Church, Upper Shirley. The viaduct at Commercial Road was said to be half-finished, together with all its remaining piers and abutments, but this must be an exaggeration. The only photograph we have, taken after the work was abandoned, shows just four arches and even these are not complete. To span Commercial Road and the railway, many more arches would have been required. There is no evidence that work was carried out anywhere else in Southampton, but the intention was that deep cuttings through Shirley would have provided some of the spoil needed to reclaim the mudlands.



Figure 24, Commercial Road viaduct 1886.
This is the only known photograph showing the work done in Southampton. It was taken in 1886 from roughly where Southampton Central station now is (at the time, the station was further east) and is looking towards the junction of Mount Place (now Wyndham Place, centre) and Blechynden Terrace (right). In those days, the tide would come up under the railway into the area in front of the camera. It is possible that the chimney in the centre background of the picture is Barlow's Victoria Brewery. The picture is taken from a poor quality original in the Southern Daily Echo of 19th November 1938, and has been enhanced as much as possible here. The original photograph was in the Lankester Collection which was destroyed in the blitz in 1940, so this is probably the only copy to have survived.

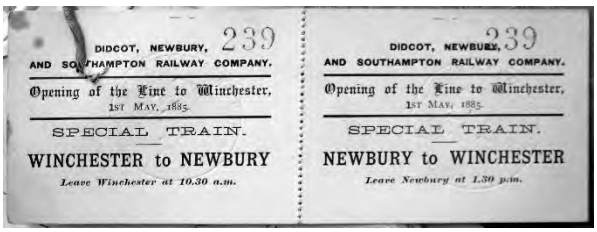
Also in August 1883, James Staats Forbes was appointed a director of the DN&SR. He was the Chairman of the London, Chatham & Dover and Metro-politan District Railways and had cordial relationships with both the LSWR and GWR. At the time, it was hoped that this would be a positive move for the DN&SR, but it soon became clear that his aim was nothing less than to kill off further expansion of the railway in the interests of the two big companies, and create a connection with the LSWR as speedily as possible. This became a reality when, in February 1884, he succeeded the ailing Sir Robert Lloyd-Lindsay as Chairman. The *Railway Times* noted:



Figure 25. A modern day view of the viaduct location. This is as close as it is possible to get today (20th March 2018) to the viewpoint in the 1886 photograph. It is taken from a much higher position and a little further west. The position of the four arches is now taken up by Frobisher House, which is the seven-storey concrete building just left of centre.

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"We thought that Mr. Forbes would not be content to play second fiddle on the Board of the Didcot, Newbury and Southampton Railway, and accordingly, we are not surprised to see that he has assumed the Chairmanship. Poor Didcot!"

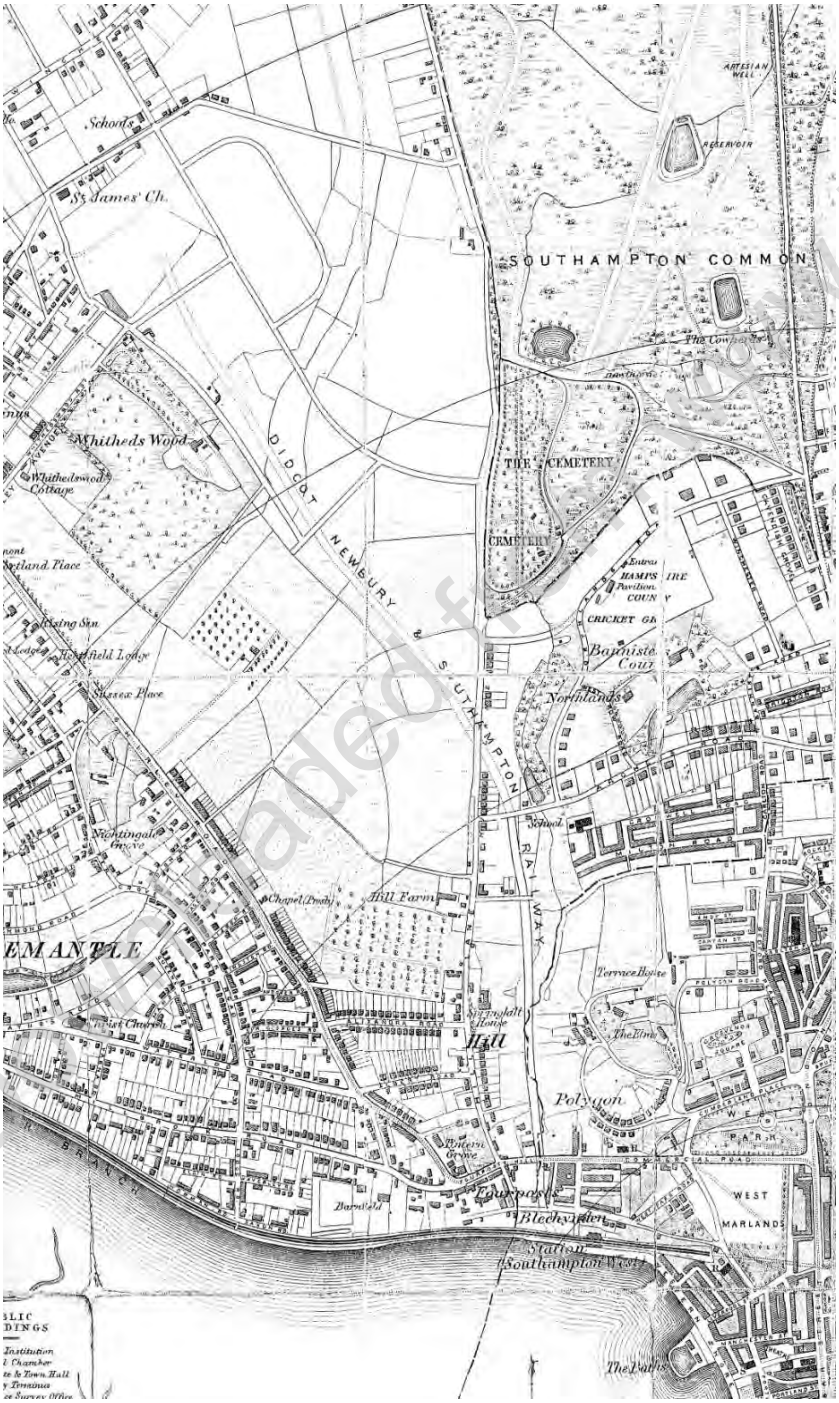

DIDCOT, NEWBURY, 239
AND SOUTHAMPTON RAILWAY COMPANY.
Opening of the Line to Winchester,
1ST MAY, 1885.
SPECIAL TRAIN.
WINCHESTER to NEWBURY
Leave Winchester at 10.30 a.m.

DIDCOT, NEWBURY, 239
AND SOUTHAMPTON RAILWAY COMPANY.
Opening of the Line to Winchester,
1ST MAY, 1885.
SPECIAL TRAIN.
NEWBURY to WINCHESTER
Leave Newbury at 1.30 p.m.

Figure 6 ***Figure 26. Newbury-Winchester Opening. A return ticket for the opening day of the DN&SR line between Newbury and Winchester.***

On 17th March 1884, shareholders were told that work in Southampton had been "temporarily" suspended since October 1883 in order to concentrate on the works north of Winchester. £100,000 had been spent, mainly on land, which represented almost one third of the estimated £350,000 cost of the whole Winchester-Southampton project.

1884 was also the year that the GWR and the LSWR agreed a "non-aggression" pact (on 21st October), whereby each would avoid encroaching upon the other's territory. For the DN&SR, this could not have happened at a worse time, as much of the case for its own line was that it gave the GWR access to Southampton. For its part, the GWR was willing to stay out of the port if the LSWR left Bristol alone.



The Newbury to Winchester line duly opened on 1st May 1885, the celebrations being attended by members of Southampton Corporation. Although no further work was being done in Southampton, the DN&SR realised that its powers to build the line would expire in August, so it gained a one-year extension for acquiring the necessary land and completing the undertaking. More surprisingly, at the August 1885 half-yearly meeting, the company announced that contract plans were being prepared for the completion of the Southampton extension as a single line, to be followed later by a double line.

Figure 27. Kelly's Map 1892. Kelly's map of 1892 is probably the best representation we have of the land that was acquired and fenced off for the railway, although it was published some years after work on the line was abandoned in 1889.

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Perhaps the opening of the line to Winchester gave the company renewed hope that funds would become available to reach Southampton as originally planned, but any such optimism was dashed, when the DN&SR still failed to prosper. Confidence in Southampton began to decline, and further investment failed to materialise. Indeed, at the February 1886 half-yearly meeting, there was hardly any mention of Southampton, and a proposal was made to create a junction with the LSWR at Bishopstoke.



Figure 28. Western Shore c1903.
Taken from a newspaper article in the 1930s, but dating from around 30 years previously, the Corporation Baths at Western Shore can be seen in the centre of the photograph with the Emperia Building to the left. This was built in around 1903 as a mineral water factory for Idris & Co, and by 1913 it had been taken over by British American Tobacco, who used it until 1921. The building was destroyed by bombing in 1940. Missing is the Western Shore electricity power station completed in 1904. Also visible in the background is the spire of St Peter's Church (now the Vestry restaurant). The DN&SR station would have been built on reclaimed land directly in front of the camera; Bargate Street runs off the right of the photograph. It is very hard to believe that this is now the site of West Quay shopping centre!

Perhaps spurred by this, 100 shareholders met at the Westminster Palace Hotel in June 1886, and a report of the meeting was presented to the Board on 19th June by J.E. Le Feuvre, a prominent share-holder and member of Southampton Chamber of Commerce. The directors were presented with a resolution "that all steps be taken to complete the railway to Southampton and use Preference Stock authorised by Act of Parliament". Le Feuvre also proposed that to save costs, the ruling gradient of the line should be altered from 1 in 106 to 1 in 100. The shareholders provided new estimates for the cost of the line – earthworks: £90,000; bridges: £37,000; permanent way: £30,000; tunnel: £28,760; fencing: £5,200; metalling: £1,000; telegraph, etc: £1,000 and "miscellaneous": £1,000, giving a total of £193,960.

They also provided costings for the stations – £2,500 each for Twyford, Allbrook and Chilworth, £5,000 for Shirley and £10,000 for Southampton; Shirley was clearly seen as the major intermediate stop.

The cost of land was put at £50,000, which must represent additional costs, given that £100,000 had already been spent according to the 17th March 1884 meeting. Adding all the figures together gave a grand total of £266,460, but it was suggested that an additional £15,000 could be saved by building a shorter tunnel at Chilworth, although this would require even steeper gradients on its approaches. The revised total cost would then become £251,460, which, it was suggested, could be funded by:

Southampton Corporation 4% Debenture Stock	£50,000
Landowners 4% Debenture Stock or rent charges	£50,000
Shareholders to subscribe	£100,000
Contractors to take Debentures	£50,000

It was reported that "the Corporation of Southampton unanimously agreed to recommend the ratepayers to temporarily forego the construction of all public improvements to be provided for their special agreement with the company." This is quite extraordinary, as it implies that the Corporation was so keen to see the line built that it would effectively direct all its future capital spending to that end at the expense of any other proposed works. Not surprisingly though, Parliament again overruled the Corporation.

A move by the shareholders to oust Forbes failed, and he observed that the DN&SR had not yet paid a dividend and that it never would if the Southampton line was built. The directors noted that no engineer's

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Figure 29. Southampton S&WGWJR Western Shore plan.
The S&WGWJR's 1900 proposal for a station on the reclaimed mudlands is more fully formed than that of its predecessor, although clearly influenced by it. The facilities are more comprehensive than those proposed by the DN&SR, probably because the land at the Dell (where the goods yard was to have been sited) had been sold off. Note also the proposed changes to the quayside lines.

name was given to support the shareholders' figures, and that their £350,000 estimate should remain the "official" one. Incidentally, Fowler was of the opinion that a station on the mudlands would be advantageous, and if they were not reclaimed it would be a "distinct loss to Southampton".

This last-ditch effort was followed by a shareholders' visit to inspect the suspended works in Southampton. They were shown some of the properties that had been acquired including all the houses on the west side of Mount Place, Blechynden. The arches of the viaduct were inspected, and they were told that a lot of money had been spent diverting "the old boundary stream" that ran through the valley where the line was being built. As its name suggests, the stream marked the Parliamentary and Municipal boundary of Southampton, and needed to be routed under the new embankment. It had been felt that most of the gardens on Hill Lane would be needed, so in some instances, whole properties had been bought outright, including Mr Bullock's late residence, "Southbrook House".

In *Public Life in Southampton*, James Lemon (later Sir James Lemon), Southampton's Borough Surveyor from 1866, wrote that the scale of purchases was "unnecessary". He felt the line was badly laid out, and gave an example of at least one property that could have been saved by moving the line slightly to the east. He regretted that whole properties had been bought, only to be sold later at a loss, and recorded that many shareholders "expressed astonishment at the excessive nature of the works" when they were shown sites on which valuable properties had been demolished. After the visit, a meeting was held in the lecture hall of the Hartley Institution at which it was agreed that completion was "absolutely necessary to secure the financial success of the undertaking".

At an extraordinary shareholders' meeting held at the Westminster Palace Hotel on 5th November 1886, the DN&SR proposed making a junction with the LSWR, but those present rejected the proposal. They were outvoted by proxy voters, however, and the Board won the day. In advertisements in local papers on 15th November, the company announced it was to apply to Parliament to make a junction line, and also to cancel its agreements with Southampton Corporation and the Harbour Board Committee. It also made it known that all land and property acquired would be sold off.

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Perhaps the visit led many of the shareholders to become disillusioned with what was going on, as a subsequent poll found the majority to be in favour of a junction with the LSWR (even though that company was not). A final proposal to build the Southampton line was floated at the August 1887 half-yearly meeting, but it was voted down, and a year later, the Bill was passed for the construction of the line to Shawford Junction. The sale of the property that had been bought up at least made the locals happy, as the abandoned and fenced-off works had been a source of annoyance for some years. If the shareholders' actions had achieved anything, it was only to delay the Bill of Abandonment for the line, which was eventually incorporated in the DN&SR Act of 1889.

The idea of an independent route to Southampton wouldn't go away though, and almost immediately after the failure of the original scheme, the DN&SR's Traffic Agent, Capt. W. H. H. M. Gipps, proposed a line from Winchester to Shirley on the route of the 1881 scheme, with the intention of attracting football and cricket traffic. Hoping that this would then become a viable route, he proposed that even the extension to Southampton could be resurrected "as funds permit".

Then, in 1900, the Southampton and Winchester Great Western Junction Railway (S&WGWJR) obtained a Bill to build a line on almost the same route as planned in 1881, except at Shirley where a more westerly course was proposed. It was notionally backed by the GWR, and cited "malicious delays to Didcot line trains at Shawford Junction" due to the LSWR giving its main-line trains priority. On 13th June 1902, a working agreement for the intended route was signed between the GWR and Capt. Gipps of the DN&SR, but the scheme was abandoned in 1905 due, not surprisingly, to a lack of finance.

This was the last attempt to create an independent line between Winchester and Southampton. The price exacted by the LSWR for the connection at Shawford was that its engines should take over at Winchester and work all DN&SR trains to Southampton, indeed GWR engines were forbidden to work south of Winchester until an agreement was finalised in 1910. The DN&SR was now in the unusual position that while most of its line was worked by the GWR, the southern-most part was worked by the LSWR. This anomaly continued when the DN&SR was absorbed by the GWR at the Grouping, resulting in part of the GWR being worked by the Southern Railway.



Figure 30. Southampton, the offices at 11 Oxford Street in 1923. (inset: the lettering painted on the doorframe)

The DN&SR maintained offices in Southampton right up until its demise in 1923. Originally situated at 32 Queen's Terrace at a rental of £26 per annum, they subsequently moved to 11 Oxford Street, where the company rented the first floor for £30 per annum through Capt. Gipps, who was also the General Manager of the Lambourn Valley Railway (LVR). It is most unlikely that this latter concern had any need for an office in Southampton, but by an ingenious piece of cross-subsidisation, the DN&SR manged to get the LVR to pay 10% of the rent, presumably on the basis that Gipps spent much of his time there. A letter from the owner of the property, Matilda Hill of 60 Belle Vue Road to Gipps on 17th July 1900 confirms

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the DN&SR's occupation of the Oxford Street offices from around that time. It also hints at the impecunious state of the company:

> "Sir, As I have let the house, 11 Oxford Street, to you, will you kindly inform the Didcot and Newbury Company of this fact … it is my request that the rent of office should have been received by now."

Burdensome though it was, the investment in the offices proved worthwhile, as Gipps and his team of three found innovative ways to drum up custom, and managed to double the freight traffic on the DN&SR in the ten years between his appointment in 1894 and his death in 1904.

The Route Described

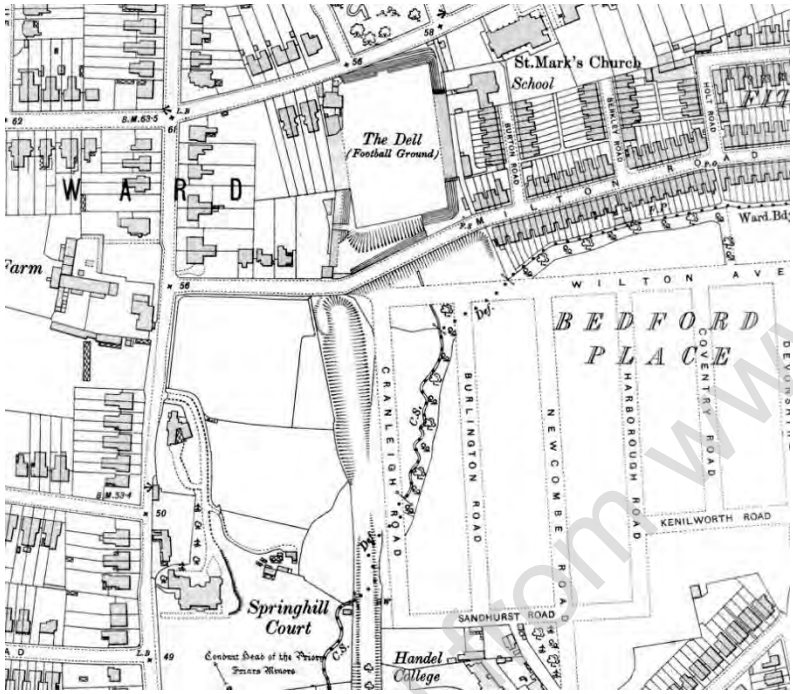


Figure 31. Southampton extension (north) OS 25-inch 1910. Taken from the 1910 25-inch OS plan, the northern part of the formation is clearly defined. The Dell has been built on the site of the proposed goods yard, and the orientation of the building plots to the west of it indicates how the route would have gone towards the crossing of Hill Lane. Wilton Avenue and its associated roads have been laid out but not yet built, indeed Cranleigh Road was never built, and its location now forms part of the Rollesbrook Valley Greenway. The "boundary stream" is clearly visible running under the embankment, and Springhill Court (later Nazareth House) has been built on sold-off railway land. It took its name from the conduit head, originally built by Franciscan friars to bring water into the town. Use of the supply was granted to the town in 1311, and by the 15th century it supplied nearly all of the Southampton's needs through a grid of public conduit houses, one of which still exists opposite the Mayflower Theatre.

From Winchester Chesil station, the line followed its eventual route until just before the viaduct, where it would have continued southwards, to the east of the Hockley to Twyford road. Twyford station would have been to the east of the village, the railway then passing along the east side of Bourne Lane to cross Hazeley Road and run round the back of Twyford Waterworks (not yet built) towards Hare Lane, which would have been crossed where it bends towards the south-east. Crossing Main Road just north of Colden Common, it would then have crossed the junction of Spring Lane and Upper/Lower Moors Road before turning in a more westerly direction. The Brambridge road would have been crossed just south of the Dog and Crook, with bridges over the River Itchen, the Itchen Navigation and the LSWR main line to the south of Highbridge Road.

Allbrook Station would have been hereabouts, and then the line of the current M3 would have been crossed, followed by Oakmount Road just north of the site of Toynbee School. The Eastleigh to Romsey railway line would have been bridged to the south of LSWR's Chandler's Ford station before the line crossed Bournemouth Road at its junction with Leigh Road. (I have found no evidence that a station was planned for Chandler's Ford.) Running south-west through Hut Wood to the site of Chilworth Station, the line would have turned more southerly through a 372 yard (346 m) long tunnel under Chilworth Common and the line of the current M27. From Chilworth, it would have run through the site of Southampton golf course and the grounds of Bladon Lodge, home of Hampshire landscape artist, William Shayer, before crossing under Winchester Road to Shirley.

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The plan clearly shows the crossing of Winchester Road to be at its junction with Wilton Road, but later accounts have consistently mentioned that the line would have crossed at the junction with St James Road, citing as "evidence", the fact that St James Park is in a dip (interpreted as a cutting for the railway). Having been used as a nursery from 1865, the site became a gravel pit from 1897 to 1911, and it is these later excavations that explain its sunken appearance. There is no evidence that any work was carried out in this area at all, but to the south-west of the park are Didcot Road, Newbury Road, and Stratton Road, which (tellingly) was Station Road until 1903. The implication that this road would have led to a station on the site of the park cannot be overlooked, but is inconsistent with the published plan.

Although Station Road was laid out in 1883, with Didcot and Newbury Roads following four years later, the area was not built up until the early 1890s, long after the Southampton extension had been abandoned. Why the name Stratton Road was chosen is not known.

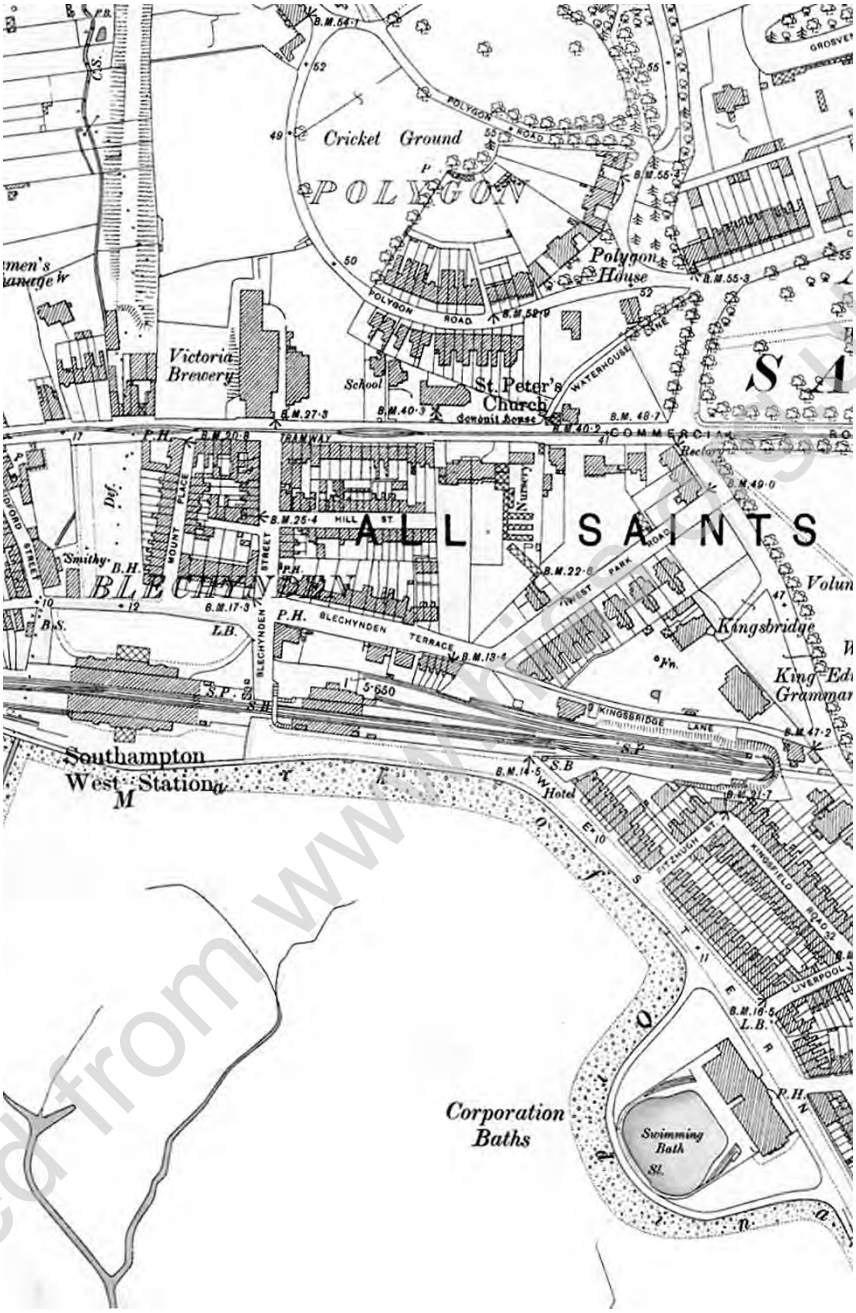


Figure 32. Southampton extension (south) OS 25-inch 1897. The earthworks can be seen in the top-left of the 1897 OS 25-inch plan, and buildings have already sprung up below their southern end, suggesting that the embankment had not been built at this point. The undeveloped rectangle of land on the opposite side of Commercial Road is where the unfinished arches of the viaduct were situated. They would have continued southwards to cross the railway line at the site of the (later) Southampton West (now Central) station, which replaced Blechynden station to the east. Both stations can be seen on the plan and between them is the level crossing that connected Blechynden Street to Western Shore. The proposed DN&SR station would have been south of the Corporation baths. The 1886 photograph of the four viaduct arches was most likely taken looking NNW from a point on the railway line at the extreme west of this plan, between where the current station footbridge and road bridge are now.

Sticking with the plan, the line is seen running to the east of St James Road, and crossing under Hill Lane north of Archers Road through the Dell (as its name suggests, a small lake surrounded by trees) which was earmarked as a goods yard. It was then to run along an embankment between Hill Lane and the Polygon, crossing Commercial Road and the existing LSWR line on a viaduct before continuing on reclaimed mudland to a station at the west end of Bargate Street where the Pirelli Works was later built – now West Quay. From here, the line would have continued down to Royal Pier station where a connection to Southampton Harbour Board's tramway was proposed. By running over that line along Town Quay, it would reach its own 100-yard-long branch into the docks.

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Figure 33. Southampton, Rollesbrook Greenway entrance. Viewed on 13th March 2018, this is the entrance to Rollesbrook Valley Greenway on Wilton Avenue, showing the embankment on the right. The Dell is further to the right, off-picture.



Figure 34. Southampton, Rollesbrook Greenway. A view back to the entrance of the Rollesbrook Valley Greenway. The level of the embankment drops considerably behind the camera.



Figure 35. Southampton, southernmost end of the formation. The abrupt end of the line in the car park of the Old Mutual Wealth building on Commercial Road looks ready for a viaduct to spring from it. However, it would have needed a lot of arches to reach all the way to the south side of the LSWR line. It is more likely that this is simply where work on the embankment stopped.

When the land was sold off, the Dell became the home of Southampton Football Club, but since the club relocated to the present St Mary's stadium, it has been developed for housing. On Hill Lane, Springhill Court was built on much of the sold land, and in 1923 this became Nazareth House, providing a home for primarily Catholic deprived children, the elderly and unmarried mothers and their babies. This building was destroyed during the blitz and its replacement was sold off to property developers in 2000. It is now covered with modern housing.

It is possible to walk along the route from the Dell almost to Commercial Road, as it has been turned into the Rollesbrook Valley Greenway, an urban nature reserve. From the north end, the embankment is quite pronounced, although the western side has been excavated away for school tennis courts. The path runs below the eastern side of the embankment in company with the brook until the embankment finishes about halfway along the valley. At this point the brook crosses under the formation and the path joins the line of the railway, rising again until it comes to an abrupt end by a car park. An exploration of this area is well worthwhile, but it gets overgrown in the summer months.

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Onward to Bournemouth

A deputation from Bournemouth urged the DN&SR to make a direct connection to its town, and the company published plans, again drawn up by Sir John Fowler, in November 1882. The DN&SR (Bournemouth & Poole) Extension Bill was duly debated in Parliament in 1883, and would have been 30½ miles (49 km) long, starting from a triangular junction at Shirley. It would have run through Totton, Lyndhurst and Burley Street before reaching a proposed Bournemouth terminus "in a garden attached to a house or villa in Dean Park known as *Broad Hays*". A connection would have connected with the LSWR's Bournemouth West to Poole line, which would have required a 220 yard (200 m) viaduct in addition to other heavy works.

The proposal was withdrawn when it was realised that it was going to be unsuccessful, largely due to the destruction of 110 acres (45 ha) of woodland in the heart of the New Forest, and the introduction of a Bill by the LSWR to make a line from Brockenhurst to Christchurch via Sway, which was passed in August 1883.

And to Portsmouth!

At around the time the railway was contemplating an extension to Bournemouth, a deputation from Portsmouth also urged the DN&SR to extend the railway there, but its pleas fell on deaf ears.

Some correspondence held at the National Archives, Kew (RAIL 1057/821) sheds light on another scheme, around ten years later, to extend the DN&SR from Winchester to Portsmouth via Botley. The suggested 24 mile (38 km) route was put forward around late 1894 by a DN&SR shareholder who belonged to the Portsmouth Railway Extension Association. Understandably, the DN&SR was not very enthusiastic about the idea, given that it had very little money, but the association's idea was well thought through, as it also suggested a connection from the DN&SR to the GWR line at Basingstoke, which would create a Great Western through route between that town and Portsmouth in direct competition to the LSWR.

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Poland: an Industrial Archaeology Miscellany

Ray Riley

Many an industrial archaeologist is faced with the problem of what to do with a photographic collection which may be wide-ranging, but yet contains insufficient material for a self-standing article on a particular topic. One answer is to donate to a museum or archive, or more likely to bequeath to a relative in the hope of a satisfactory solution. Another, but more onerous way forward is to use photographs as the basis of an article which, for instance, may be place- rather than activity-specific, covering a wide spectrum of topics, the evidence of which otherwise might disappear given the pace of industrial change. In this way, at least, future researchers would benefit, especially since photographs of artefacts no longer in existence are particularly valuable.

The latter suggestion has been taken up by the writer, one of whose photographic collections hinges on Poland. A number of activity-specific subjects, including textile mills [1], Upper Silesian coal mining headgear [2,3], and railway station design [4] have been published, but the evidence of a number of other areas has proved inadequate for a substantial article. Some of these areas are brought together here.

Narrow Gauge Railways



Figure 36. A narrow gauge 0-8-0 built at Chrzanów in 1955 reversing from Rawa Mazowiecka for the main line at Rogów. The triple headlights on the tender enabled the driver to see what was ahead and hope that obstacles would vacate the track. 'Cowcatchers' were fitted to remove reluctant bodies. Photo 1995.

Until the Treaty of Versailles at the termination of the First World War, Poland was partitioned between Prussia, Russia and Austro-Hungary. The first and third of these powers pursued a policy of industrialisation, laying down standard gauge track to deal with the movement of raw materials and the products of heavy industries. By contrast, Russian concern was principally the movement of troops, with the consequence that not only did their rail network pay scant attention of industrial areas, but also it was thinly developed. Hoping for a profit, some private firms built narrow gauge lines to link smaller settlements with main lines (Fig. 36). In the 1880s and 1890s a number of wealthy landowners wanting to market their agricultural produce, especially sugar beet, laid down narrow gauge lines. This also applied in some Prussian controlled areas. Karl Von Davier built a huge sugar refinery at Znin in 1894, serviced by a rail network and engine shed (Figs. 37 and 38). At its peak there were 4000 km of narrow gauge lines in Poland.

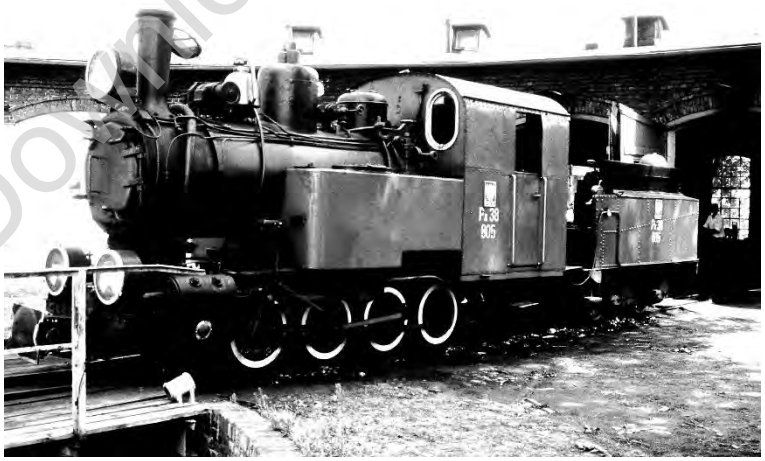


Figure 37. This narrow gauge tank locomotive at Żnin possesses a tender, thus overcoming the lack of coal and water supply points in many rural areas. In the background is the part-round house favoured by railways in Poland. Photo 1996.

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The admittedly slow rate of economic progress did see the arrival of the motor car (the East German Trabant was the universal goal), while the state introduced a comprehensive bus network, but nevertheless by 1985 some 2734 km of track was still in operation. Most passenger services had been withdrawn, however in 1994 some 1.2 M tonnes of freight were hauled on 1418 km of track.



Figure 38. A narrow gauge diesel at the turntable at the Żnin depot, giving the impression of being a museum exhibit, but not so. Photo 1996.

Since most of the rolling stock had been destroyed in the war, it is not surprising that most of the existing units date from the 1950s and later; the steam locomotive works was at Chrzanów in Silesia. A range of engines was produced with a wheel arrangement varying from 0-4-0 to 0-8-0, the larger being equipped with tenders to ensure the supply of coal and water. Given the low winter temperatures the cabs were enclosed, and in the absence of fencing round the track, allowing pedestrians and animals to encroach, large electric lights were fitted. These were to be found both fore and aft since at termini run round trackwork was normal, turntables being unusual.



Figure 39. A smart diesel hauling freight wagons into the standard gauge yard at Ozorków, north of Łódż. Photo 1994.

Even though coal was both cheap and readily available, if not the best steam variety, from the extensive mines in Silesia, diesel locomotives were introduced in the 1970s. Under the Soviet bloc policy of regional specialisation these engines were manufactured in Romania. It was PKP (Polskie Koleje Panstwowe), the Polish national railway, policy to keep their engines in smart condition (Figs. 39 and 40). It is tempting to believe that in an economy where unemployment was for ideological reasons effectively zero, labour could be used generously for locomotive upkeep. On the other hand, there seems to have been some disagreement over track gauge, for that in the Silesian industrial area measured 785 mm, while that in the north of Poland was 750 mm. Even under communism there were regional power struggles. Track maintenance was assisted by rail-mounted lorries (Fig. 41).



Figure 40. A 785 mm gauge diesel at the Karb depot in Silesia. 'Cowcatchers' were deemed unnecessary in industrial areas. Photo 1995.

Engine sheds seem to have existed only at main depots, their structure being scaled down images of main line practice. Rather than having a complete round house as in the early British case, the buildings were arranged in semi-circular fashion round an uncovered turntable. Bearing in mind the low winter temperatures, doors were provided, as may be seen in Fig. 42.

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Figure 41. A rail mounted lorry at Krosniewice. A sizeable cab was provided for workers. It also gave protection from low winter temperatures. Photo 1994.



Figure 42. The part-roundhouse at Żnin; four doors of the original structure are visible. The turntable is in the foreground. Photo 1996.



Figure 43. The interior of a passenger carriage featuring some hard-looking wooden seats. Photo 1994.

Originally conceived as a freight system pre-dating the arrival of communism in 1947, in the command economy narrow gauge lines became a useful means of dealing with workers. Carriages were then built (Fig. 43) and added to freight trains, the phrase "mixed traffic" taking on a new meaning (Fig. 44). Some were provided with diesel engines making them independent units, even from time to time enabling their use as prime movers for freight traffic (Fig. 45). Carriage washing facilities were added at some depots, once again underlining the cleanliness policy (Fig. 46).

Appreciating that the transfer of goods between wagons of different gauges was not exactly efficient, in 1970 a piggy-back system was brought into limited use, standard gauge wagons being carried on narrow flat units. Given the somewhat flimsy nature of narrow gauge track, and its very narrowness, it is not surprising that there was a speed limit of 20 kph (Figs. 47 and 48). There was no problem with the loading gauge since level crossings were used instead of road overbridges. Another strategy to improve access was to combine the two gauges, although this seems only to have been employed within industrial premises (Fig. 49).

Signalling did not loom large, save in the vicinity of junctions with main lines and at passing loops, and indeed the only indication a road user had of many level crossings was a sign bearing an image of a steam locomotive; presumably trains had right of way and motorists had to keep their wits about them (Fig 50).

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Figure 44. A passenger diesel at the head of a rake of goods wagons at Krosniewice, where there was a link with the line between Warsaw and Berlin. Photo 1994.



Figure 45. Passenger carriages combined with covered goods wagons en route from Rawa Mazowiecka to the main line at Rogów, some 30 km distant. Despite a population of 30,000 Rawa lacked a standard gauge line. The track was upgraded in 1955 from 600 mm to 750 mm. Photo 1995.



Figure 46. The rather tumbledown carriage washing facility at Krosniewice, but all in a good cause. Photo 1994.

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↑ ***Figure 47. A rake of standard gauge goods wagons mounted on narrow flats at Rawa Mazowiecka. Photo 1995.***



→ ***Figure 48. This shot of narrow gauge flats for carrying standard wagons illustrates the somewhat precarious nature of the practice. Photo 1995.***



↑ ***Figure 49. Narrow gauge track laid down within the standard variety at the Orzel Biały mine in Silesia. Photo 1995.***



→ ***Figure 50. The narrow gauge signal at the approach to the main line at Ozorków. The tall structure in the background is the water tower constructed under Russian rule to facilitate the movement of troops by rail. Photo1994.***

Since the rejection of communism in 1989 heavy "western" lorries have largely superseded freight working, while car ownership has become common, making the system effectively part of Polish transport history. There is a motley collection of rolling stock in a museum at Wenecja, while in an effort to attract tourists the Rawa Mazowiecka township advertises their line as a sightseeing experience, allowing stops for photography on request – timetabling must be a flexible notion.

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Figure 51. The sheer size of the largest of the three graduation towers at Ciechocinek is apparent. The wind pump is at the far end. Seats are provided for those wishing to linger and inhale the curative airs. Photo 1994.

Thorn Graduation Towers

The discovery of 6% brine at Ciechocinek, north of Warsaw, led to the construction in 1836 of a saltworks using imported coal. But since it had been found that by exposing brine to the atmosphere some constituents, but not salt, were driven off, and in order to save fuel, the brine was first passed through graduation towers. This resulted in brine containing 28% salt which was initially pumped by beam engine to the saltworks. By 1854 three towers had been built. They were vast structures measuring 724 metres, 651 metres and 366 metres in length and 15 metres in height (Fig. 51), made from wood (Fig. 52) and containing packed blackthorn branches, selected for their longevity and spikey nature (Fig. 53), thus maximising the brine's exposure to wind flow. The brine was lifted by wind pumps located at one end of the towers (Fig. 54), then moved by gravity along a channel which had a slight declivity (Fig. 55). The boarding of the channel walls could be opened and shut to ensure that there was an even flow on to the branches below. The residue was collected in wooden troughs at the foot of the towers.



Figure 52. The internal structure of the graduation tower is evident during repair and renewal work. Photo 1995.

Since the brine is rich in iodine, the air in the vicinity of the towers was thought to possess medicinal value, its inhalation forming the basis of the nineteenth century spa. That the towers have continued to exist is in large part due to the communist policy of providing

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←← Figure 53. Detail of the blackthorn branches and wooden trough at their foot, Ciechocinek graduation tower. Photo 1994.

← Figure 54. The wind pump at the end of the largest graduation tower, Ciechocinek. Photo 1994.

↙ Figure 55. The central walkway and drainage channels at the head of a graduation tower at Ciechocinek. The wind pump is visible in the distance. Photo 1994.



the population with healthy holidays, and since 1989 the local authority's decision to support the structures as part of the spa's features, which they undoubtedly are.

Not part of the graduation towers but associated with them at the nearby saltworks are two elevated reservoirs, the smaller dating from 1836 (Figs. 56 and 57). A structural link with the towers is their similar construction in wood, a material which was plentiful in Poland for much the nineteenth century (Fig. 58). Needless to say, the reservoirs are not seen as part of the town's heritage, despite their rarity.

← Figure 56. The small elevated, covered brine reservoir at the Ciechocinek saltworks. Its height allows the liquid to flow to the adjacent saltworks by gravity. Photo 1995.

↙ Figure 57. The large brine reservoir at the Ciechocinek saltworks. It dates from the 1840s – 1850s when additional graduation towers were built. Photo 1995.

↓ Figure 58. Crude but effective wooden supports at the larger brine reservoir at Ciechocinek. Photo 1995.







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Gasholder Houses

A recurring theme in Poland where winter temperatures fall to between -10 to -20 ^{o}C, is the need to offset the ensuing problems. The protection afforded narrow gauge steam locomotive crews has been mentioned above, but in the gas industry it was the water seals in multi-lift gas holders that required protection from icing. In the 1880s Prussian designers argued that the easiest way to control the ambient temperature of the holders was to enclose them in roofed roundhouses whose interior was steam-heated. Two such structures were built in 1882 and 1888 at Wola gasworks in western Warsaw close to a main line railway (Figs. 59, 60 and front cover). Coal gas has not been made since 1972 and the holders, but not the houses, have been dismantled and are part of the national gas museum. To find a reuse is not easy; at least at Toruñ the house has become a cultural centre, as has the (railway) Roundhouse in London. To British eyes they are a rarity. In several IA quizzes I have never been given a correct answer.

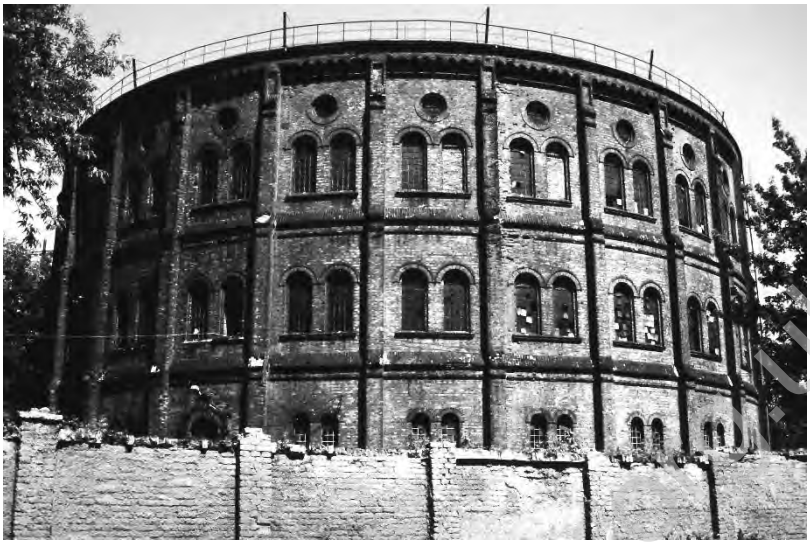


Figure 59. The 2-lift gasholder house at Wola gasworks, Warsaw. Photo 1994.



Figure 60. The two gasholder houses at Wola showing the nature of their roofs. In the foreground is the 2-lift example, dating from 1888; the 4-lift, of 1892, is in the background.

Street Furniture

In the days of the horse and cart it was standard practice to have bollards on each side of narrow entrances to courtyards and industrial buildings to give protection from rear wheels taking the shortest route. Hard wearing stone was commonly used, and in places such as Portsmouth redundant cannon were employed. In some Polish towns there are some intriguing examples made from cast iron – not exactly the cheapest solution. They all feature a small bearded figure holding a protective plate, in some cases bearing a date. (Fig. 61). The effigy might possibly be derived from Polish mythology, although oddly enough something very similar in stone and lacking a plate is to be found above the entrance to a late Victorian office block, Charterhouse, in Portsmouth.

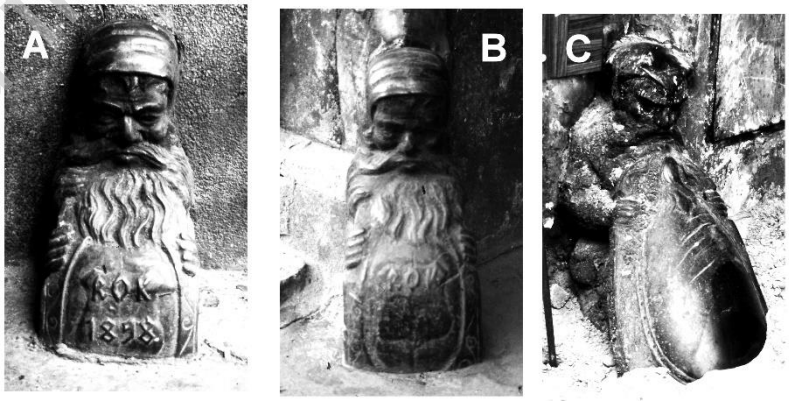


Figure 61. (A) A courtyard bollard dated 1898 ('rok' means 'year') in Warsaw. The detail has endured since heavy cart traffic would have been small. Photo 1995.
(B) A bollard in Łódż with a similar effigy to that in (A), but has been subjected to greater wear. Photo 1994.
(C) A Łódż bollard with a different shield from those in earlier examples. Photo 1994.

Inclined Plane on the Elbląg Canal

The inclined plane was by no means unique to Poland, but that on the Elbląg canal linking the interior to the Baltic Sea is unusual in that it was powered both by gravity and water power. Its original purpose was largely to move timber in 60 tonne barges to Danzig for export, although it continues to operate as a tourist attraction. The plane itself was opened in 1881 to replace five locks to the design of a Dutch engineer A

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Figure 62. The three cable wheels at the foot of the Elbląg inclined plane. The cable is guided by one wheel set in the same direction as the incline, then to another at right angles, and finally to a third parallel to the first. Vessels pass each side of the assembly. Those ascending then settle on the cradle at the foot of the incline. Photo 1994.

Steenke. There are twin tracks allowing the descending cradle to assist the ascent of its fellow (back cover), the shortfall in power being met by a water wheel driving a cable drum at the head of the incline; water is taken from the canal. Particularly striking are the sets of wheels carrying the cables at the head and foot of the incline (Fig. 62). So delighted was the technician in the engine house to meet someone who was actually interested in the workings of 'his' engine that the writer was given the task of working it to raise a holiday-makers' boat.

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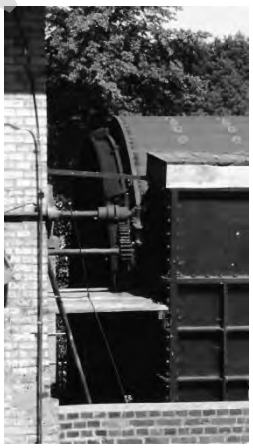


Figure 63. The engine house and 4 m by 9 m breast-shot waterwheel at the head of the Elbląg inclined plane. The drive from the water-wheel is by the gear ring visible on the left of the wheel. Photos 1994.

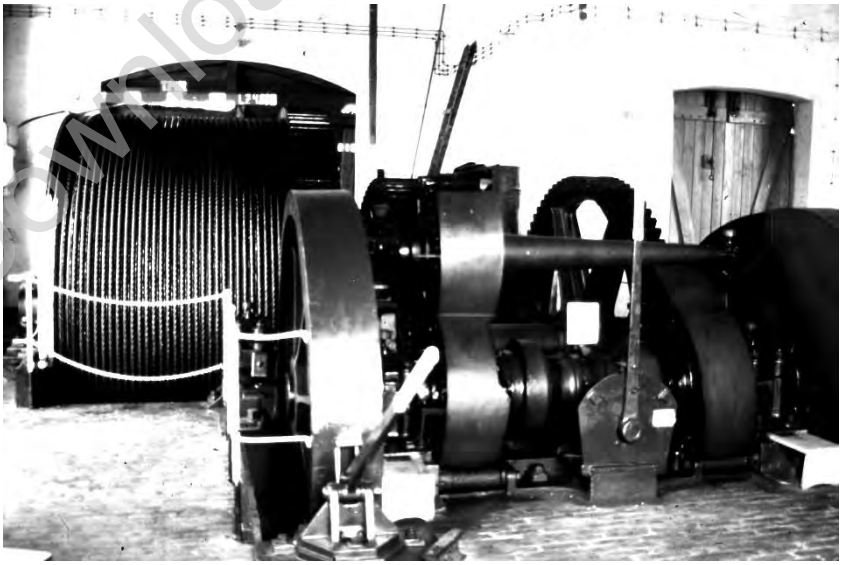


Figure 64. Controls and cable drum in the Elbląg inclined plane engine house. Photo 1994.

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